AMERICA'S PASTEST VACHTS LINED UP AT CITY ISLAND OFFER A STUDY OF MODEL DE-VELOPMENT NEVER SUPPLIED BEFORE

yachts. At City Island, and especially at Hawkins's yards, a lot of historic craft are high and dry on the beach. The colsbrated Vigilant and her twice vicbeat her. It is safe to any that not 5 per cent of the yachting community have seen the underbodies of these boxts. It will be remembered that all were carefully screened from public view during their construction. During the building of the Vigilant calonia, both intended to contest for the honor of defending the America's Cup, there was much guesswork printed about them. The yards of the Herreshon's at Bristol were far off, and reporters The Navahoe was launched and way to race in England before any one know anything about her; and until she raced last year with the Vigilant of Nawport and Larchmont this boat was practically an unknown quantity in this country. When she was beaten by the Britannia, the Satanita and other yachts in England, there was much surprise. It did not seem possible that the builders of those two revelations, the Gloriana and the Wasp, could fall in the larger boat. But the greatest sur prise of all did not arrive until the Navahoe, this ource of so great disappointment, beat the celebrated Vigilant in a hammer-and-tongs heavyweather race off Newport last summer. Until that ment there was not a yachtsman in all America who knew how good the Navahoe was. The news came like a bolt from a clear sky.

But now, at City Island, the record of the boats be read in their hulls, seen together, high and dry, for the first time. As one stands on a wharf close by, thelateral contour of both may be studied, and, without hunting up the figures which give their exact dimensions and while judging of them solely by the eye, it will be seen how althe As to their entrances and runs there to be little to choose between them the long overhangs of each are trailed out seems equally graceful, and it is not until the lines apreach the centre section that the working differences appear. The underbody of the Vigilant is uch more out away than the Navahoe's. This is clearly discernible. The bilges of the Navahoe come lower in the water; she has more belly and will disturb so much more water than the latter boat that lifficult to understand why the Vigilant should not always win under even conditions. Yet the lead mine on the Navahoe looks a good deal the larger, and this may explain why she won in the breeze and caway off Newport, the value of the extra ballast being perhaps worth more at that time than the Vigilant's shallower modelling.

Another important point may be considered in the tuition now provided at City Island; the Colonia may be compared side by side with the rival which at first wrested the best honors from her. Roth Vigilant and the Colonia have been altered since those great trial races which came off prior to the advent of Valkyrie II. Both have been deepened and have received more land, but the old-time differences of opinion are still arguable, and, in spite of the favor which the centreboard craft then received, there many who thought that the Colonia, with more depth of keel added, would be the better boat. There ple have since been quite sure that the Cole nia, with her necessary alterations, would have made a far better showing with the Britannia than the Vigiant did. The models now ranged beside each other leave hardly a doubt on this point, and the ability for carrying immense canvas areas which the Coloula has shown as a schooner, as well as her faculty for doing first-class work when heavily careened. have told of the big chances that were taken when the light-weather Vigilant was chosen to defend the The respective abilities of these boats are now o be appreciated in a study of their physical differ-

ences.

Next come those two excellent rivals, the Quissetta and the Amorita; and here the models necessarily tell the story of their few comests, even without further knowledge of them. The Quissetta, belonging to Henry Harris, is a born greyhound. She is by long odds the pretiest boat of the whole collection. Her underbody is apparently reduced to a minimum. She is simply a big steel cance, with the overhangs long drawn out and the narrow, deep fin heavily ballasted at the bottom. Instead of being black, as usual, the whole of her hull is now painted a bright scarlet, the red lead protecting from corrosion, and in this Mephistophelian color she appears, if possible, more dangerous than ever. The graceful Amorita, which looks so well above water, to could asther disappointing in some business qualpears, if possible, more dangerous than even, ris found rather disappointing in some business qualities. The front of her stem, after it curves down below the water, widens out rapidly, presenting a flat opposition to her passage through the water. From the way her steel ribe run down there is evidently a wide enough space between them for a man to stand sideways down in her keel, and, if recollection serves rightly, a large part of her hallast is laid at the bottom of the receptacle thus made. But this width of keel and consequent opposition to water must certainly do much to hinder the made. But this width of keel and consequent opposition to water must certainly do much to hinder the boat's speed, while the Quissetta avoids hearly all this in her model. From her bowsprit down to her ballast bulb, the line of the Quissetta's stem looks as if it might be used to shave one's seif, and in considering the respective differences in opposition to water it seems strange that the Harris boat should not run away from the Amorita in light weather.

weather.

As to heavy weather and seaway, Mr. Brokaw thinks he has a chance, and the peculiar build of the Amorita's keel gives an impression of immense ballasting and power, so that until both boats are tried in really hard weather it may be unsafe to assume that the former champion is entirely out of the run-

that the former champion is entirely out of the running.

Close at hand, in Wood's yards, lies the hull of the new Kestrei, the fifty-one-footer that was built for John B. Milis to race with the Syce. Here is a boat that seems a good deal misunderstood. Judging solely from the look of her hull, she seems to be an uncommonly "silen" boat. She was hurried out of Wood's hands to join the New-York Yannt Club cruise last August, and in some of her suffing with the fleet did poorly. With a leading wind even the old forty-foot Gossoon passed her, and she was immediately reported as a probable failure. Some excuses for this are siven, but they need not be repeated here. The boat is on view, to tell about hereif, irrespective of preconceived opinions, and it is difficult to see why she should not turn cartwheels round the Gossoon and give the Syce the trial of her life. There may be defects, but not in her shape; and it's a fair bet and prophecy that the pitted Kestrel will be heard of again and under different terms. After Fife designed the Canada, probably the fast-

CATARRH OF THE STOMACH.

A Pleasant, Simple, but Safe Diffectual Cure for it.

Catarrh of the stomach has long been con-Catairth of the stomach has long been considered the next thing to incurnalle.

The usual symptoms are a full or bloating sensation after enting, accompanied sometimes with sour or watery-risings, a formation of gases, causing pressure on the heart and lungs and difficult breathing; headache, fickle appetite, nervousness and a general played out, languid feeling.

There is often a foul taste in the mouth, coated tongue, and if the interior of the stom-

coated tongue, and if the interior of the stom-ach could be seen it would show a slimy, in-flamed condition.

The cure for this common and obstinate trou-ble is found in a treatment which causes the

food to be readily, thoroughly digested before it has a time to ferment and irritate the delicate mucous surfaces of the stomach.

To secure a prompt and healthy digestion is the one necessary thing to do, and when normal digestion is secured the catarrhai condition will have disagranged.

digestion is secured the estatement condition where disappeared.

According to Dr. Harlanson, the safest and best treatment is to use after each meal a tablet, composed of Diastase, Aseptic Pepsin, a little Nur. Golden Seal and fruit acids.

These tablets can now be found at all drug stores under the name of Stuart's Dyspepsia and not being a patent medicine, can

These tablets can how be found at all drug stores under the name of Stuart's Dyspepsia Tablets, and, not being a patent medicine, can be used with perfect safety and assurance that healthy appetite and thorough digestion will follow their regular use after meals.

Mr. N. J. Bocher, of 2710 Dearborn St., Chicago, Ill., writes: "Catarrh is a local condition resulting from a neglected cold in the head, whereby the lining membrane of the nose becomes inflamed and the poisonous discharge therefrom, passing backward into the throat, reaches the stomach, thus producing catarrh of the stomach. Medical authorities prescribed for me for three years for catarrh of stomach without cure, but to-day I am the happicst of men after using only one box of Stuart's Dyspepsia Tablets. I cannot find appropriate words to express my good feeling. "I have found flesh, appetite and sound rest from their use."

Dyspepsia Tablets is the safest preparation as well as the simplest and most convenient remedy for any form of indigestion, cutarrh of stomach, billousness, sour stomach, heartburn and bloating after meals.

Send for little book, malled free, on stomach troubles, by addressing Stuart Co., Marshall, Mich. The tablets can be found at drug stores.

HISTORIC HULLS SHOWN. THE STEEL INK ERASER A Thing of the Past AFTER USING THE



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Downtown Office, 10 East 14th St., N. Y.

COLLINS.

forty-footer of to-day, he designed the Kestrel, the boat is built to beat the band, builder of the Kestrel, Frank Wood, is just pleting a model of her, which Mr. Mills will soon ent to the New-York Yacht Club, according to

completing a model of act.

present to the New-York Yacht Club, according present to the New-York Yacht Club, according the usual custom.

The development in yacht-modelling in the last twenty years is shown in the eld Clara and the young Norota, which are hauled up side by side, young Norota, which are hauled up side by side. The Clara, with the Minerva and the Madge, introduced the English keel and led Burgets to build the historic Gossoon and the lithe Norota, representing the last development of the type which became a favorite. The Clara, standing high, presents a great favorite. The Clara, standing high, presents a great green copper wall of keel, with the stem dropping straignt down to a forefoot prinaps eight or ten feet below the water-line, and looking somewhat like a big oyster resting on edge and partly flattened on its upper ridge. The Norota has no forefoot of any kind, and the line of her stem is trained away in and down until it almost meets the foot of her raking sterripost. She is pretty nearly all bow to the foot of her rudder.

Could there be any greater extremes than these Could there be any greater extremes than these analyses.

the foot of her rudder.

Could there be any greater extremes than these boats represented? Here is the first and last word about the keel in America. And, while the many other craft resting in the neighborhood explain the intermediate developments, these two, the Clara and the Norota, tell what the ingenuity of Americans did with the keel in a few short years. They took it as the Clara and Minerva brought it, clumsy and inactive, though seaworthy, and they have developed a craft that is really an aquatic gymnast. It was a good thing, the keel, and it was pushed along until its changes would have entirely obscured its origin if it were not for the Clara and some other old-timers which still stand by, apparently as good as new, to tell of the earlier days.

WALL STREET AND EXCHANGES.

has a scheme for reducing cotton production this year through the formation of an association to be called the American Cotton Growers' Mutual Proective Association. Mr. Price said yesterday that the formation of the association had been mooted by several people prominent in finance in Newwho believed that if such an organizatio could be formed under conditions giving it the necessary degree of coherency, it would not only be directly of great advantage to the cotton-growers of the South, but would also materially enhance the value of Southern investments, through the indirect influence which it would exert toward greater material prosperity in the South, He stated that regularly in the past, whonever cotton de-clined below the cost of production, some such effort had been made, but these attempts had not been satisfactory in their results, because they

CHICKEN DAYS COMING.

ANNUAL EXHIBITION OF THE NEW-YORK POULTRY AND PIGEON ASSOCIATION

TO BEGIN IN THE MADISON SQUARE GARDEN ON

TUESDAY MANY ENTRIES THIS YEAR. The ninth annual exhibition of the New-York Poultry and Pigeon Association is to be held in the Madn Square Garden on Tuesday, Wednesday, Thurs show promises to be the most successful yet held by the association. More than six thousand birds will be exhibited, and more pigeons will be shown than at any previous exhibition. Special attention is to be paid this year to the buff Plymouth Rocks, the new breed which has attracted so much interest among pigeon fanciers. The entries, which closed on January 18, in the classes for Brahmas, Leghorns, ducke, game birds and turkeys, are also con siderably larger this year than on any other occasion. The majority of the birds will arrive at th

In the course of the exhibition the annual meetings of many clubs and associations of bird fanclers will be held. The annual meeting of the Amer-Ican Black Minorca Club is fixed for Thursday evening; that of the American Exhibition Game and Game Bantam Club on Saturday afternoon; the American Jacobin Club on Friday afternoon; the National Bantam Association and the American Tur-bit Club on Friday evening, and of the American Owl Club on Saturday afternoon.

The officers of the New-York Poultry and Pigeon Association are: President, T. A. Havevice-presidents, Philander Williams, T. H. Terry and James Forsyth; treasurer, Charles T. H. Terry and James Forsyth; treasurer, Charles
M. Griffing; secretary and superintendent, H. V.
Crawford; counsellor, Albert Reynaud; directors—
James Forsyth, H. V. Crawford; George Purdue,
D. E. Newell, Philander Williams, Charles M.
Griffing, G. P. Reynaud, Thomas H. Terry and
T. A. Havemeyer, fr. Executive Committee—The
president, the treasurer, the secretary, George
Purdue and D. E. Newell; Transportation Committee—G. P. Reynaud and Charles M. Griffing.
The stockholders include many well-known citi-



BRONZE TURKEY zens. Among them are August Beimont, Henry O. Havemeyer, Jr., T. A. Havemeyer, Jr., Mrs. A. Ladenhurg, Presentt Lawrence, Winthrop Ruther-furd and Rutherford Stuyvesant.

David A. Nichols-Cochins.
George Furdue-Cochin Bantams.
James Forsyth-Buff Leghorns.
Henry Rall-Ducks, Gerse, Turkeys, Guinea
Fowls, Dressed Poultry, Eggs.
White Plymouth owis, Dressed Poutry, Eggs.
Sharp Butte-field—Buff and White Plymouth locks, S. C. Brown and R. C. Leghorns, Dark rahmas, Langshans, Dorkings, George O. Brown—Houdans, Javas, Andalusians, pulsa, Sumatras, Pollsh. -Hamburgs, Jersey Blues, Frizzles,

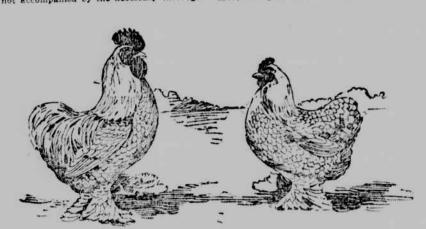
Fleche, Creve Cours, eorge B. Fletcher—Light Brahmas, H. Drevensiedi—Wyandottes, Indian Games, B. Zimmer—Minorcas, Bantams, except Game Cochin.
P. Earl-Exhibition Games and Game Ban-H. Scudder-Barred Plymouth Rocks. bn C. Haynes-White Leghorns.

FOR PIGEONS. loseph Gavin-Tumblers, Oriental Frills, Various of Selling Classes,

James Blair-Pouters and Fantalia.
J. C. Long-Swallows, Priests, Nuns, Archangels,
Dragoons, Trumpeters.
D. E. Newell-Carriers' Barbs.
W. J. Stanton-Jacobins, Magpies, Homers.
George Feather-Owis, Turblis. FOR PET STOCK.

effort had been made, but these attempts had not been satisfactory in their results, because they were not accompanied by the necessary thorough-

Rothmueller, Joseph I. Lawrence and



WHITE PEKIN BANTAMS, COCK AND HEN.

sociation shall be formed, its administration shall be in the hands of practical, thoroughroung bustness men of capital, including representatives of the cotion trade, both North and South as well as representatives of the cotion producers. The principle of co-operation and the resulting economy, both of production and distribution, was one that had come to be recognized in nearly every department of industrial activity except agriculture. Among farmers but little co-operation had as yet been practiced. There were various rearons for this one being that the farmer was during most of his life, a comparatively isolated individual, living on his farm, viewing things only from the point of view of his competitors that in other walks of life invariably resulted in intelligent co-operation. The object of the American Cotton Growers' Mutual Protective Association would not only be to effect industrial economies, but to promote a more thorough agricultural protection as well. Sub-organizations to include each cotton-producing county in the South would be formed, which, as associate communities would exchange views with other such organizations. Better methods of culture would be introduced, the most economical methods of production, marketing and distribution would be availed of, and generally and effort would be made to apply the broad principle of intelligent co-operation and of mutual education. Mr. Price said that the money necessary to a thoroughgoing test of this idea would be furnished, provided that the preliminary attempt which his firm was now making to obtain the moral support of men prominent in the Southern States was forthcoming.

The resolutions of the Governing Committee of the New-York Stock Exchange stopping arbitrage dealings are as follows:

Whereas, The so-called arbitrage business, or trading between this Exchange and that of any other city in the United States, based upon quotations from the floor of this Exchange, has re-suited in practically ignoring the Commission law;

suited in practically ignoring the Commission law; therefore
"Resolved, That in the judgment of this committee the sending of continuous quotations, or quotations at frequent intervels, by members of this Exchange, from the floor of the Exchange, is detrimental to the interest and welfare of the Exchange, and that any member engaging in such business or trading small be proceeded against under Section 8 of Article XVII of the constitution.
"Resolved, That the Committee of Arrangements be and it is hereby authorized and instructed to prevent the transaction of any such business or trading by any member of this Exchange, and to prefer charges against any member engaging there in."

The chief feature of the bank statement yesterday was an increase of \$5,01,400 in deposits to \$72,481,200, and an increase of \$2,550,000 in loans to \$555,860.00. The reserve increased \$2,357,100 to \$20,500.

A POSTOFFICE CLERK ACCUSED.

Passate, N. J., Jan. 29.—Roy C. Norman, son of ex-Postmaster A. D. Norman, of this city, employed as a clerk in the postoffice, was arrested to-day by a United States Marshal on the charge of robbing the mails. Norman had been en of robbing the mails. Norman had been employed in the postoffice under his father, and continued under the present administration.

The present postmaster is D. W. Mahoney. It is alleged that Norman has been steading letters containing money for subscriptions for several periodicals. The charge is made that Norman began his thieving under the administration of his father. The arrest of Roy Norman has caused much comment.

ness of organization. The idea is that, if the American Cotton Growers' Mutual Protective Association shall be formed, its accommission shall be in the hands of practical, thoroughnous business men of capital, including representatives of the cotton trade, both North and South, as well as representatives of the cotton producers. The principle of co-operation and the resulting economy, both of production and distribution, was one

THEY WANT A CELEBRATION.

MEN WHO WISH TO GET UP A FESTIVAL OVER THE GREATER NEW-YORK.

number of persons:

number of persons:

You are cordially and respectfully invited to attend a conference at 4 o'clock p. m. on Monday, January 28, at the Fifth Avenue Hotel. The meeting is called to plan a proposed celebration to mark the birth of the Greater New-York. The proposition, in brief, is to organize and to begin, on Wednesday, May 4 next, "Charter Day," a fitting celebration of this great event.

It should be both civic and military, and representative to a degree that would interest and engress the attention of the whole population of the Greater New-York, and of a magnitude calculated to attract vizators from every part of the United States.

The historic commercial and evic impacts and engree of the commercial and evic impacts and continuous commercial and civic impacts and continuous c

to attract visitors from every part of the United States.

The historic, commercial and civic importance of the consolitation of New-York City and Brooklyn. Richmond County and the suborban territory comprehended in the Greater New-York needs no emphasis. It is of National as well as local interest. The National Guard of this and other States should be strongly represented. The event should be worthy of, and doubtless will insure, the attendance of the Chief Executive, National officials, the Government afficient municipalities. The United States. Government should be invoked, to the end of investing the occasion with international importance betiting the greatest scapert of the New World by inviling naval, military, diplomatic and commercial representatives of foreign nations to attend and participate.

The signers to this are as follows: Roswell P.

The signers to this are as follows: Roswell P. The signers to this are as follows: Roawell P. Flower, Timothy L. Woodruff, William Berri, John D. Crimmins, Charles H. Truax, Robert B. Roosevelt, Shas B. Dutcher, Jacob A. Cantor, Aaron Vanderbilt, Frederick D. Grant, Louis F. Haffen, Frank W. Sanger, W. W. Goodrich, William d'H. Washington, Thomas J. Creamer, Isaac N. Seligman, George Ehret, H. H. Brockway, Joseph A. Goulden, Henry B. Adams, Robert Dunlap, Darwin R. James, Charles L. Guy, J. Seaver Page, Maurice Eckstein, Andrew D. Parker, William Cullen Bryant and James D. Leary, Of these, ex-Governor Flower is abroad, and some of the others have profited largely by the new charter.

NEW NATIONAL BANK IN ASHEVILLE. Washington, Jan. 29. - The Controller of the Currency has authorized the Blue Ridge National Bank of Asheville, N. C., to begin business with a capital of \$100,600.

CONSUL ASHBY'S BODY NOT FOUND. Washington, Jan. 29 - Consul-General Gudger, at Panama, has cabled to the State Department that all efforts to find the body of the late Consul Ashby, who was drowned in the harbor at Colon, have
fattled. From the length of time that has elapsed
since the fattal accident it is believed there is now
no hope of securing the body.

the new third rail system of electric traction, invented by William A. P. Willard, jr., he has

been beset with visitors not only at his office in

the Lord's Court Building, at the intersection of

This fact is only one evidence of the grea

William-st. and Exchange Place, but also at his

terest taken in the subject not simply by the general public which rides on cars, but also by the capitalists and engineers who build and manage, if they do not own, our rallways, and who are therefore anxious to keep fully enlightened as to the latest advances in traction methods. Electricity has already made great conquests, to be sure, in this department of human activity, especially in our country. Foreign scientists and engineers, on coming to this side of the Atlantic, marvel at the progress we have made and the superiority of American appliances and systems over those of the Old World. All the same, there are new fields of activity that have hardly been invaded as yet.

There is scarcely a good-sized village east of the Mississippi River that has not its trolley road. Not only has electricity displaced the horse on old street railways, but it has so captivated the public fancy that it has inspired the construction of trolley lines in many places where there were no streetcars at all before From this time on, consequently, there will be a much slower development of the trolley system. The amount of territory now left to be invaded is comparatively limited.

THE FUTURE OF THE THIRD RAIL The third rall, on the other hand, has only just entered upon its career of conquest. This is not due to the newness of the system, to any great extent, but to the fact that attention has not been concentrated long upon the particular field in which its chief development is likely to come. It is hardly necessary to point out to any one who has read The Tribune for the last three or four years that the third rail is peculiarly adapted to service on the steam roads.

Moreover, it is to the suburban department of railway traffic that electricity will first be applied. Experts are pretty well agreed on that point. The time may not be far distant, perhaps, when express trains will run from New-York to Philadelphia, and even to Chicago, with electricity for their motive power. But those who are best qualified to express opinions in such matters have pointed out that the special advantages which belong to this form of power are much more obvious with light trains, dispatched frequently, and running for only a few miles, than with heavy trains, running long distances and at considerable intervals of time. Naturally, then, the suburban service is the place to begin with. Then again, this branch but now has been stolen from them almost enof the former corporations have only this choice tricity and "fighting the devil with fire.

WHO MR. WILLARD IS.

use on suburban steam roads must come about gradually, and only after a certain amount of experiment; but as soon as a few features of the system which is especially suited to those lines-the third rail system-are fully worked out, it will be reasonable to look for a rapid development of that form of construction and operation. The Tribune has had occasion repeatedly within the last two or three years to mmend the New-York, New-Haven and Hartford Railway Company for its progressive spirit in this matter. And it is interesting to note that Mr. Willard, whose invention is just now attracting so much attention, was for two years n the employ of the Consolidated company, and tant-General, arrived in New-York yesterday and Mr. Willard speaks very graciously both about that corporation and President Clark. And it is impossible to entice him into criticism of the Nantasket Beach system. But it may be inferred from his intimate relations in the past with the New-Haven road that he is thoroughly familiar with the subject in hand, and understands the problems that are to be solved. These cfreumstances put him in a class by himself. and distinguish him from the vast horde of "crank" inventors who are making the patent attorneys happy, but who disgust the inquiring expert by their impracticable ideas.

A good chance has been afforded to New-York people during the last few months to study the practical working of the third rail system, owing to its adoption by the management of the Brooklyn Bridge. At present the extra rail is used only to start the trains out of the stations and to furnish current for the electric lights in the cars. But it is not unlikely that it will have a more extensive application within the next year, especially when the elevated railways of Bridge to the Manhattan side. However the Bridge to the Manhattan side. However this may be, the fact remains that we have the third rail right here under our very noses, and can form our own opinions in regard to it from direct observation and inquiry.

THE DANGER OF THE PRESENT SYSTEM Anybody who is at all familiar with electrical science can see at a glance the danger of the present system. The current comes from the power station along this third rail, which corresponds to the overhead wire of a trolley line After it has gone into the piece of machinery known as the motor (which is affixed to the under side of the car), the electricity flows into the rails on which the car wheels ride, and thus gets back to the station. But if anything which will conduct this mysterious force should happen to touch both the feeding rail and the return rail, the current will follow this connecting link. rail, the current will follow this connecting link. A carelessly dropped crowbar may thus "short circuit" the line. A man with one foot on one rail and the other foot on the other rail would do so likewise, although if his shoes are a little damp they will promote a freer flow of the electricity than would otherwise occur.

damp they will promote a feer how of the eact tricity than would otherwise occur.

If a man grasps with moistened bare bands a telegraph wire, and its feet are in contact with something which makes a good connection with the earth (the return rail for a telegraph circuit), no harm will be done, because the volume of current flowing is very slight, and the electrical pressure, or voltage, is low. But if the disposes himself so as to form part of the route for an electric railway current, he is sure to get a severe shock, to say the least. And, even though he would probably not be killed directly, yet a tumble or a temporary paralysis resulting from this shock might easily lead to his death from another cause. Considerations of poiley or fear sometimes lead men to keep quiet about these matters. Moreover, it is to be feared that occasional untruths are told, with a view to throwing dust in the eyes of the public. But any one who thoroughly investigates for himself will have no difficulty in discovering the real facts. A rail or wire through which a current is flowing is called a "live" covering the real facts. A rail or wire through which a current is flowing is called a "live" rail or a "live" wire; and there's nothing which an expert electrician leaves alone more carefully than both of them. They are constant sources of danger to any one whose duties are such that he is liable to come in contact with

SAFETY WITH THE THIRD RAIL.

A NEW THING IN ELECTRIC TRACTION SYSTEMS.

A RECENT INVENTION ATTRACTS MUCH ATTENTION—ELECTRICIANS AND RAILROAD MEN ASK FOR FULLER EXPLANATIONS

AND GET THEM—NO MORE

"SHORT CIRCUITING."

Since The Tribune referred a fortnight ago to the new third rail system of electric traction.

MR. WILLARD'S WORKING MODEL. How Mr. Willard accomplishes this is plainly shown by a miniature railroad, which is on exing. A tiny truck, equipped with a sultable motor, is placed on a track not over six or eight inches wide; and when the current turned on, the little machine goes flying around an elliptical course, sixteen feet long and eight or nine feet wide. The third rail is laid halfor nine feet wide. The third rail is laid half-way between those on which the car runs, and a smooth narrow strip of brass underneath the truck reaches down so as to make a sliding contact with the upper face of the middle rail. After this preliminary performance, which tells its own story, Mr. Willard shows his visitor a wooden model of that rail. In height, thickness and interior arrangements, this is as large as the genuine article would be; but, for convenience in handling, he has limited its length to five feet, instead of letting it extend the full thirty feet of actual practice.

The rail is made in two pieces. They resemble a long, narrow box, and a cover, fitting over the upper edges of the same and reaching down an inch or more on each side. From the lower edges of the lower half there project outwordly flunges sufficiently wide to give a hold After this preliminary performance,

edges of the lower half there project out-wardly flanges sufficiently wide to give a hold wardly flanges sufficiently wide to give a non-for the spikes wherewith the rall is to be se-cured to the crosstles. Both the bottom and sides, inside of the box, are lined with some insulating material. Just now Mr. Willard has insulating material. Just now Mr. Willard has wood in place there, but he does not limit himself to the use of that material. The box, thus lined, is intended to carry his "live" conductor, and the insulation keeps the current from leaking out through the sides of the rail. A crowbar or bare hand, touching this part of the box, can under no circumstances tap the supply of electricity.

lectricity. The cover of the box is mounted on rollers so The cover of the box is mounted on follers so as to slide a little, lengthwise. In one position it has no electrical connection with the enclosed conductor. But when the "shoe" of the car, which slides along the top of the rail, comes in contact with this cover, it pushes it onward half an inch or so, and thus lets the electricity come up into it, and so into the motor. When the car has passed the cover returns to its former position, and becomes "dead."

A piece of road equipped with this rail will be in operation within ten miles of the New-York City Hall by April 1, thus affording the public a chance to study its workings.

a chance to study its workings. SOMETHING ABOUT THE COST

When investigators have once satisfied the curiosity about the working of Mr. Willard's system, they naturally ask him about the cost of his third rail. Both the fixed part of it and the sliding cover can be rolled out, like ordiare not likely to cost more per ton than those materials. The inclosed conductor is of fron and not copper, and consequently is cheaper than copper. The rollers and levers, together copper. The rollers and levels, the insulating material, add only a trifle to the expense

to the expense.

Any comparison which is made between the cost of this style of rail and the third rail now in use ought to take into account not merely the price paid for the latter alone, but also the cost of extra work done at grade crossings and stations. More elaborate cattle guards, sections of overhead wire and other incidentals have been found necessary where the third rail is now being tried. These could be dispensed with if a safety rail were substituted for the ith if a safety rail were substituted for th

fident that his system would involve an in-creased cost of less than \$500 a mile. And that sum may well be considered a small one ge suits in consequence of leaking currents.

It is perhaps needless to add that the Willard rail is adapted both to the single-track and double-track roads. A car can go in either direction, and shift the moving top of any section forward or backward from its central position, and pick up the current equally well. Like a good rule, this scheme is designed to "work both ways."

GENERAL TILLINGHAST'S VIEWS.

HE PAVORS DIVISION OF THE FIRST BRIG-ADE AND ELECTION OF BRIGA-DIER-GENERALS.

Major-General C. Whitney Tillinghast, 2d, Adjustablished his headquarters at the Waldorf-Astoria, where he will remain until Tuesday morning. He made an informal visit to Troop C last night at the armory, North Portland-ave, and Auburn Place, Brooklyn. General Tillinghast said that he was much pleased with the work that had been accomplished by the Reorganization Commission, and hoped that the labors of that body would prove a lasting benefit to the National Guard of

"I saw the weak points of the Guard in the course of my many years of service," he said, "and when I was appointed to a place where I could be instrumental in bringing about a change for the better I worked toward that end, and I believe that the administration of Governor Black will earn the thanks of the citizen-soldiery for perfecting the organization."

He said that the report of the committee would

probably reach him to-morrow, and would be handed to the Governor as soon as it had been care-fully examined, and that unless the Governor had any changes to suggest it would then be laid before the Legislature in the form of a bill. The Adju-tunt-General said that The Tribune had stated the case properly when it said that the new code which will be the outgrowth of the commission's deliberations will have only two objects in view-the elevation of the standard of the National Guard and its removal from politics. As to the possible commander of the State forces

the Adjutant-General said that he had never had any ambitton in that direction, and he believed that any ambition in that direction, and he believed that Major Charles F. Roe, whom he had recommended for the place, would be an ideal officer. When told that the members of the First Brigade were anxious to know whether that body would be divided, General Tillinghast said that the commander-inchief had not consulted him on the subject. If he does, however, he added, "I will advocate a division of the brigade into two parts, making an east and west brigade on the lines suggested some

design of the organe into any successed some time ago."

By this arrangement the East Brigade would inclined the 7th, 8th, 8th and 7tst regiments and the West Brigade the 9th, 12th and 22t regiments. When the plan was first suggested the names of Colonel Butt and F. Vinton Greene wete often mentioned in connection with the two brigadier-generalships, and it was believed that those officers would be appointed by the Governor. But when Colonel Greene declared at the dinner which General Fitzgerald gave to his staff and the commanding officers of his brigade that he would accept the star only if an election showed that he was the choice of the held officers of the brigade that elections would result in dead-locks, and that appointments would have to be made finally to releve the situation, but up to this time nothing definite is known as to the Governor's intentions on the subject. General Tillinghast said that he was in favor of elections if the new brigades should be commander-in-chief on the subject he would advocate that plan.

THE FRENCH COOKS BALL.

The French Cooks' Ball, under the patronage of the Societé Culinaire Philanthropique, will be held at the Grand Central Palace on Tuesday. In the afternoon and evening preceding the ball there w be an exhibition of the work of the leading cooks of the city. The masters of the fine points in the cultuary art are already at work formulating designs for their exhibition pieces. All of these pieces

THE SUNDAY TRIBUNE AN EXCEPTION. From The Arcadian Weekly Gazette.

them.

HOW SAPETY MAY BE SECURED.

The third rail, then, gives rise to much mental uneasiness and peril not only on bridges and elevated structures, but also along the roadbeds of steam lines that have adopted this form of metallic conductor. And, as elevated roads are less numerous than surface roads, it is even more in the interest of the latter than of the former that some satisfactory way of rendering the third rail safe should be devised.

From The Arcadian Weekly Gazette.

When Sunday papers are condemned, exceptions femulated be made. The New-York Tribune, for instance, in its large Sunday editions, contains not one line of sensationalism. It is a regular magazine, and is an educational help to all who read it. It is one of the most helpful, elevating publications published, and is good reading for Sunday of for large the most helpful, elevating publications published, and is good reading for Sunday of for large the most helpful, elevating publications published, and is good reading for Sunday of for large the most helpful, elevating publications published, and is good reading for Sunday papers, for a great majority of them are positively marging the form of the former that some satisfactory way of rendering the third rail safe should be devised.

The Financial World.

The projected arrangement to unify the Van derbilt system, which was referred to recently in this column as a deal as important in its way as the famous West Shore deal, is now it a measure public property. The main outlines of it have been given out, and the securities at fected have advanced in a corresponding degree That part of the scheme which provides for will, it is stated, be officially promulgated in few days, the union of the Michigan Centra and Canada Southern through the West Shore is delayed through the absence of Mr. Co Vanderbilt in Egypt. After the official docu ments are published, and the details of the new scheme are known, outsiders will have facts upon which to base a judgment, but at this time they are in the dark. On the face of it, a price of 200 for Lake Shore, to be paid in 3% per cent bonds, seems rather high. With the union point to Mr. Calloway as the coming man. The situation must be builtsh-indeed it has at ready exerted a strong influence that way. The West Shore deal was made at a time when the temper of the public was far less builish that It is now, but it took powerfully, and the man probably be the same in this instance.

While the daily transactions in stocks have been only fairly large, the dealings in bonds have been on a scale of unprecedented marnitude. Among the most active issues have been the new Union Pacific 4s, now quoted about 93, and destined to see par in due time. The time for the distribution of the new securities is approaching, and very large dealings in the new preferred stock are reported. Of course it is all done on contracts "when issued." It is expected-we may soon be able to use a more positive phrase-that the stock will become dividend payer this year. The new Rock Island is, quoted in the same way "when issued," are selling about 103. If the security market did not constantly present such anom alies, one would wonder how a 4 per cent Rock Island bond could be selling at 103, and an Atchison first 4 per cent could be selling about 92 There are such anomalies, however; but they always get corrected in time, as this one will When the Speyer syndicate purchased the

Rock Islands at 9914, attention was called here to the earnings of the Atchison and Rock Island roads. It was then pointed out that the latter road would earn 20 millions this year, on the most conservative estimate. Interest and rental charges under the refunded bonds, would equal \$3,600,000, which is 18 per cent of 20 millions At 70 per cent working expenses, the road would have \$6,000,000 net, out of which to pay charges of \$3,600,000. The bond, therefore, is a perfectly safe one. But are the Atchison 4s less safe by comparison? On the contrary, they are safer. If the Atchison did not in the current six months earn a dollar more than it did for the same period last year its gross this fiscal year would be \$36,000,000. Rental charges and interest prior to the income adjustments foot up \$5,400,000, which sum will be a little reduced by the conversion of the old Guaranteed Fund fis into the 4s. The sum of \$5,400. 000 is 15 per cent of \$36,000,000. Working expenses of 70 per cent leave a net of \$10,800,000. Here, then, we have for the Atchison this fiscal year, net earnings of \$10,800,000 to pay \$5,400,-000 of charges. Even if the Atchison gross fell away by the large sum of six militons, in any year, owing to crop failures, etc., there would still be \$9,000,000 net, at the same ratio of working expenses, to meet the fixed charges; which would give a surplus over them of \$3.000,000. Any way the Atchison 4s may be viewed, they appear as safe a 4 per cent bond as there is is

Less attention than the importance of the subject deserves has been given to the improved conditions of the bituminous coal trade through the inter-State agreements just concluded. This industry gives employment to 200,000 miners alone, and a number of railroads are entirely dependent upon it. Anything that affects in an mportant degree an industry as great as this, is worthy of serious attention. The inter-State agreements referred to are designed to stop the ruinous competition which had cut the miners' wages to the starvation point, and reduced to actual or threatened bankruptcy many of the soft coal roads. So far had this competition gone, that of one Ohio road, a check had to be drawn to pay expenses on every loaded train that left the mines, the carrying rates having been so reduced that they did not pay the cost of hauling. This has now all been stopped. The rates have been restored to a paying basis, and with this the miners' wages advanced. A substantial addition to the wages of 200,000 mes means an important increase in their purchasing power; and in respect to the railroads, especially those of Ohio, as ruinous competition brought them down, its stoppage may be expected to restore their securities to the level they formerly held.

The traction stocks have continued active but rather less than they were. A brisk ber rowing demand developed yesterday for Manhattan. In respect to Brooklyn Traction, it may he said that the directors of the company are equally surprised and gratified at the unes pectedly large increase of revenue which is already coming in from the Brooklyn bridge traffic. Their calculations have been considerably exceeded by the actual results, and or this they have been buyers of the stock, which they say is now oming in sight of a dividend, and will go considerably higher. Apropos of the Flower stocks (of which Brooklyn Traction is one) a movement in Chicago Gas ought to

Another dividend on Northern Pacific is virtually announced for next week. It is to be declared out of the earnings of the company for the six months ending December 31st, and thus will make 2 per cent for that period, while another 2 per cent will certainly be paid for the current six months, making 4 per cent for the year. Evidently the Northern Pacific magnates are not the people to let the grass grow under their feet. They are banking on the Alaska business. The movement there is already under headway, and no warnings how often soever fepeated that the time is too early, can prevent the rush northward. Speaking on what it is likely to be this year, Mr. Cammack said the other day, in his abrupt way "Look here. The only comparison you can make is '49 I remember that. We sent nearly 100,000 people to California that year, and we had less than 25 millions of population to draw from. New we have over 70 millions. That's the reservoir we draw upon now." It does indeed appear that the only limit to the rush will be the means of

A big market is anticipated the coming week The Senate, it is said, has fired its gun, and left the market unhurt, and it can't do any CUTHBERT MILLS.

of the Monday morning paper is all done on Sunday, and each paper requires the labor of perhaps hundreds of hard-worked men and women.

CLOSING PRICES OF SAN FRANCISCO STOCK Yesterday To day

11 11 Julia 01

Con 06 06 Justice 36

Con 12 12 Kentuck Con 06

12 12 Kentuck Con 15

14 47 Occidental Con 150 Alta 11
Alpha Con 06
Andre 12
Belcher 24
Best & Belcher 44
Buillon 06
Caledonia 17 47 Occidentas co Ophir